

# The Effects of Using Learning Progressions for Student Mastery

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## Background

- Green Level High School is a suburban high school in Cary, North Carolina.
- This study involved 22 students in grades 9-11 in my Earth and Environmental Science Honors class.
- Learning progressions are ways for students to master foundational information that is necessary to understand when mastering essential standards.

## Reasoning

- I wanted to see if incorporating learning progressions into the unit if students would have a deeper knowledge of the content.
- I wanted to see if using learning progressions would help fill the gaps of what students were missing.

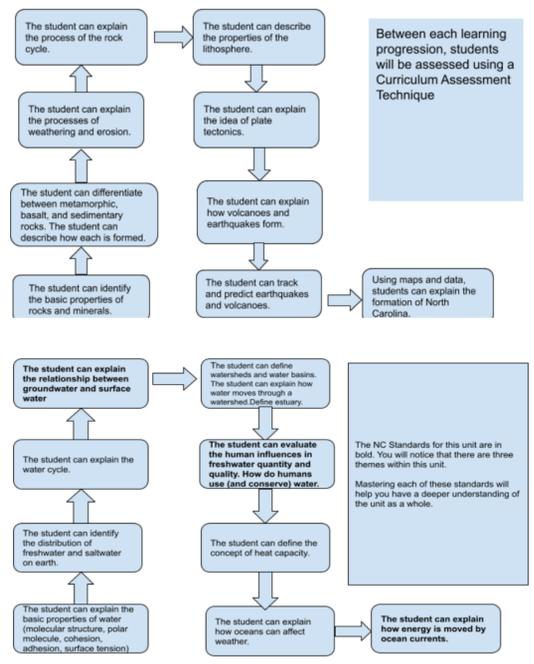


Figure 1. Geosphere and Hydrosphere Learning Progressions

## Research Questions

- Will the use of learning progressions help students understand essential standards at a deeper level?
- Will regular use of formative assessment help students identify areas where they need to grow?
- How will student attitudes toward learning change with the use of learning progressions?

## Methodology

- This study covered two units: Geosphere and Hydrosphere.
- Students completed a Pre and Post Assessment.
- Students received a learning progression flow chart with learning goals to guide them through the unit.
- A Classroom Assessment Technique was used for students to reflect on whether they mastered the learning goal.

## Data Analysis

- The effectiveness of the treatment was measured using a pre/post-test, data collected from classroom assessment techniques, and student interviews.
- Scores were compared to other sections of Earth and Environmental science taught by other teachers.

## Student Interview Responses

- "I understood the lesson better because I could see all the things that we needed to know."
- It made sense to me because I can see how its all connected.

## Claim, Evidence, and Reasoning

- Learning progressions serve as a valuable tool for students and teachers to both organize and formatively assess student learning.
- Students can use learning progressions to track their own learning and look ahead.
- This research will continue until a permanent model is implemented into future classes.

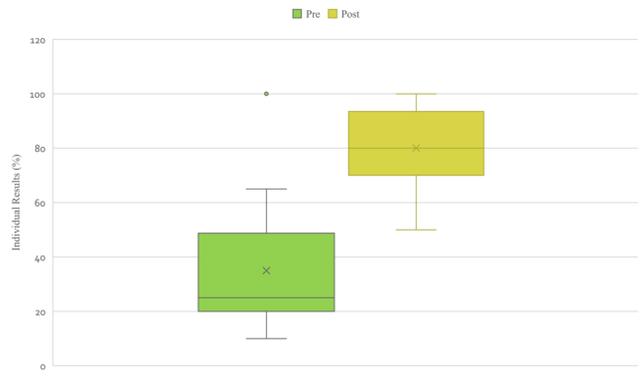


Figure 2. Boxplot showing results from the geosphere pre and post assessment, (n=16).

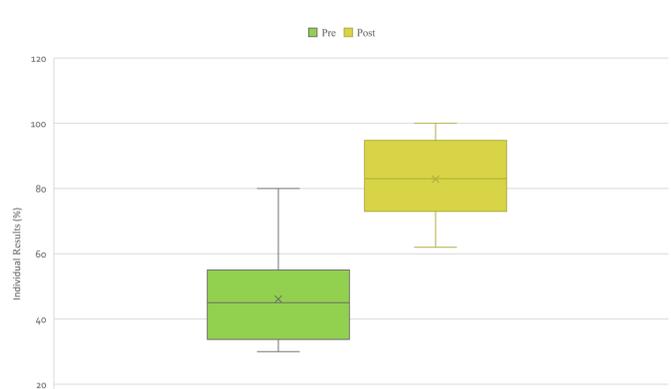


Figure 3. Boxplot showing results from the Hydrosphere Pre and Post assessment, (n=18).

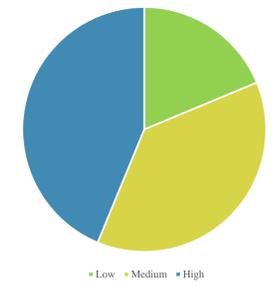


Figure 4. Pie Chart showing distribution of Geosphere normalized gains ranking, (n=16).

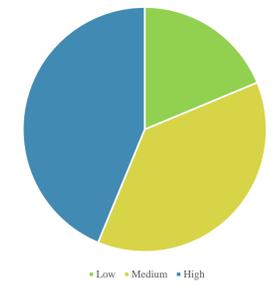


Figure 5. Pie Chart showing distribution of Hydrosphere normalized gains ranking, (n=18).

